

SN 10/650,197
Docket No. S-100, 576
In Response to Office Action dated February 22, 2006

REMARKS

Applicants appreciate the courtesy shown by the office, as evidenced by the Office Action mailed on February 10, 2006. In that Office Action, the Examiner rejected claims 1-12. As such, claims 1-12 remain in the case with none of the claims being allowed.

The February 10 Office Action has been carefully considered. After such consideration, Claims 1 and 6 have been amended. Applicants respectfully request reconsideration of the application in light of the accompanying amendment and remarks presented herein.

Rejection under 35 U.S.C. 102

Claims 1-3, 5-6, and 9-12 have been rejected under 35 U.S.C. §102(e) as being anticipated by Iwase (US 6,656,618).

Applicants submit that independent Claims 1 and 6 have each been amended to recite the limitation that monitoring individual fuel cell voltages within a stack includes measuring the individual voltages of the fuel cells and monitoring whether the individual voltages either fall below a set operating voltage or are in danger of reversal to a negative potential. Support for the amendment may be found, for example, on page 20, line 21, through page 22, line 3, of the Specification, and Figures 1 and 9-12.

Applicants submit that, in order to anticipate under §102, a reference must teach every element of the claimed invention. Accordingly, Applicants submit that Iwase does not teach the limitation, recited in amended independent Claims 1 and 6, of monitoring the voltage of individual fuel cells within a fuel cell stack by measuring the individual voltages of the fuel cells and monitoring whether the individual voltages either fall below a set operating voltage or are in danger of reversal to a negative potential.

Applicants submit that, although the Examiner states that Iwase discloses in Figure 1 an apparatus for monitoring a fuel cell power system that includes a voltage monitoring system (20d), input-output port 20d in Figure 1 of the reference does not monitor voltage, but is instead part of control unit 20 that "...inputs the results of the measurements from the various sensors to give the inputs to the CPU 20a..." See column 8, lines 55-57. The "various sensors" of Iwase, from which input-output port 20d receives input are flow sensors 32 and 34 (see Figure 1), which measure the flow rate

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of hydrogen and air – or “quantities related to the flow rates of hydrogen and air” – through supply conduits. See column 7, lines 29-38, of the reference. Applicants submit that fuel cell voltage is not a quantity “related to the flow rates of hydrogen and air.”

Applicants further submit that the Iwase does not teach that sensors 32 and 34 monitor whether the voltage of individual fuel cells within a fuel cell stack either fall below a set operating voltage or are in danger of reversal to a negative potential. The reference is in fact completely silent as to monitoring such parameters.

Because Iwase fails to teach the limitation of measuring the voltage of individual fuel cells in a stack, the rejection of Claims 1 and 6 – and the claims dependent thereon – under 35 U.S.C. §102(e) as being anticipated by the reference is therefore successfully overcome.

Rejections under 35 §U.S.C. 103

Claim 4 has been rejected under 35 §U.S.C. 103 as being unpatentable over Iwase in view of Rajashekara (U.S. Patent 6,321,145).

Claim 7 has been rejected under 35 §U.S.C. 103 as being unpatentable over Iwase in view of Fuglevand (U.S. Patent 6,497,974).

Claim 8 has been rejected under 35 §U.S.C. 103 as being unpatentable over Iwase in view of Bourlikov (U.S. Published Application 2004/0174072).

Applicants submit that, in order to establish a prima facie case of obviousness, the combination of references cited must either teach or suggest all of the limitations of the claimed invention.

Claim 4 depends from independent Claim 1, whereas Claims 7 and 8 depend from independent Claim 6, and thus include all of the limitations of these base claims by reference. As previously presented, Iwase does not teach monitoring the voltage of individual fuel cells within a fuel cell stack by measuring the individual voltages of the fuel cells and monitoring whether the individual voltages either fall below a set operating voltage or are in danger of reversal to a negative potential, as recited in amended Claims 1 and 6. Applicants further submit that the reference does not suggest this limitation, and that that neither Rajashekara nor Fuglevand, nor Bourlikov teach or suggest this limitation as well. Therefore the rejections of Claims 4, 7, and 8 under 35

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§U.S.C. 103 as being unpatentable over Iwase in view of Rajashekara, Fuglevand, and Bourlikov, respectively, are successfully overcome.

In light of the amendment and remarks presented herein, Applicants submit that the case is in condition for immediate allowance and respectfully request such action. If, however, any issues remain unresolved, the Examiner is invited to telephone the Applicants' counsel at the number provided below.

Respectfully submitted,

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